DECnet/SNA VMS Application Programming Interface (API) Installation

Order No. AA-EW86C-TE

This document tells the user how to install the DECnet/SNA VMS Application Programming Interface Version 2.3 software. The document also explains how to configure the IBM software to communicate with the interface.

Revision/Update Information:	This is a revised manual.
Operating System and Version:	VMS Version 5.0, 5.1, or 5.2
Software Version:	DECnet/SNA VMS Application Programming Interface V2.3

digital™

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Contents

2 Installing the API

Tables

Preface

The DECnet/SNA VMS Application Programming Interface (API) is a Digital Equipment Corporation software product that enables VAX users to communicate with programs running on IBM systems through one of Digital's interconnect systems.

Manual Objectives

The *DECnet/SNA VMS Application Programming Interface Installation* manual provides the information needed to install and verify the API software.

Intended Audience

This manual is intended for system managers and network managers responsible for the installation of the Application Programming Interface.

Document Structure

This document consists of two chapters.

Chapter 1	Provides introductory information about Application Programming Interface.
Chapter 2	Describes the installation process, including the Product Authorization Key (PAK) and Installation Verification Procedure (IVP). It also contains sample installations.

Associated Documents

The following is a list of documents related to this product:

- *DECnet/SNA VMS Application Programming Interface Problem Solving*
- *DECnet/SNA VMS Application Programming Interface Programming*
- *DECnet/SNA Gateway Problem Determination Guide*
- *VMS/SNA Problem Determination Guide*
- *DECnet/SNA Guide to IBM Parameters*
- *Guide to VAX/VMS Software Installation*

Conventions Used in This Manual

The following table summarizes the graphic conventions that are used in this manual.

Convention	Meaning
`Special type`	This special type indicates an example of system output or user input. In interactive examples, system output is in black type, and user input is in red type.
UPPERCASE	Uppercase letters in command syntax indicate keywords that you can enter. You can enter keywords in either uppercase or lowercase.
italics	Italics in command syntax or examples indicate variables for which either you or the system supplies a value.
[ ]	Square brackets in command syntax statements indicate that the enclosed value(s) are optional. Default values apply for unspecified options. (Do not type the brackets.)
{ }	Braces in command syntax statements indicate that you must specify one, and only one, of the enclosed values. (Do not type the braces.)
( )	Parentheses enclose a group of values that you must specify for an operand. Type the values in the line of code in the order indicated. Type parentheses wherever they appear in a line of code.
hh:mm:ss	Indicates hours, minutes, and seconds
KEY	This symbol indicates a key that you should press. For example, RET means that you should press the RETURN key.
CTRL/*x*	This notation means that you should hold down the CTRL key and press the key specified by *x* at the same time.

You must press RETURN to enter all commands.

1 Preparing for Installation

Before you install the DECnet/SNA VMS Application Programming Interface software, referred to as API, you should prepare your system.

This installation involves writing to your system disk. Digital recommends that you make a backup copy of your system disk before you begin.

1.1 Checking the Distribution Kit

Before beginning the installation, check that you have a complete distribution kit by comparing the kit against the bill of materials (BOM). If any part of the kit is missing, contact your Digital representative. Each API kit consists of one or more volumes of software media (depending on the media) and a set of documentation.

1.2 VMS System Requirements

This section discusses VMS requirements and calculates parameter values for the API.

1.2.1 Installation Requirements

Before you install the API software, verify that the installation specifications in Table 1–1 and the disk space requirements in Table 1–2 have been met.

Table 1–1: Installation Specifications for the VMS API

Requirements	Specifications
Software	VMS Version 5.0, 5.1 or 5.2
Privileges	System manager level
Disk space	4700 blocks during installation 4600 blocks after installation
Image sections	5
Global pages	257
Approximate installation time	5 to 15 minutes, depending on the medium used
Associated documents	The *Guide to VAX/VMS Software Installation* contains general installation information

Table 1–2: Disk Space Requirements for the VMS API

Minimum for API installation	4700
Permanent for API and all languages	4600
Permanent for API installation	308
For ADA	3289
For BASIC	28
For BLISS	76
For C	103
For FORTRAN	99
For LIBRARY	30
For MACRO	56
For Pascal	310
For PLI	147

To determine how much permanent disk space you need after installation of a particular language, add the permanent disk space required for that language to the disk space required for API. For example, to the permanent disk space for BASIC, which is 28 blocks, add 308 blocks, which are required for API. A total of 336 blocks are required.

1.2.1.1 VAX Supported Processors

Refer to the Software Product Description (SPD) for the latest official list of supported processors.

1.2.1.2 VMS/SNA and Gateway Support

Refer to the Software Product Description (SPD) or the System Support Addendum (SSA) for the latest official list of supported versions of VMS/SNA software, and Gateway software and hardware.

1.2.2 VMS License Management Facility Requirements

Before you install API, you should register your Product Authorization Key (PAK) with the License Management Facility (LMF). The PAK, which contains information about the license, is a paper certificate shipped with the product.

During the installation, the system prompts you asking if you have registered the Application Programming Interface license and loaded the appropriate Product Authorization Key (PAK). If you have not already done so, you can complete the installation and run the Installation Verification Procedure (IVP). The Application Programming Interface will not run if you have not registered the license or loaded the PAK. Once you perform the license registration and have loaded the PAK, you will be able to run the Application Programming Interface.

To register and load the license, log in to the system manager's account. Then type the following command:

```
@ SYS$UPDATE:VMSLICENSE.COM
```

When you are prompted for information, enter the data from your PAK. For more information on LMF, see the *VMS License Management Utility Manual* in the VMS documentation set.

1.2.3 VMS Tailor Requirements

The required classes are: VMS Required Save Set, Network Support, Programming Support, and Utilities. Be certain these classes are installed on your system before installing the product. Refer to VMS Tailor documentation in the VMS documentation set for more information.

1.2.4 Calculating the Value for GBLSECTIONS

Make sure that you have enough global pages and global sections free. If there are not enough global pages and global sections, the API software cannot be installed as a shareable image. You can check the number of global pages and global sections available by entering the following commands:

```
$  RUN SYS$SYSTEM:SYSGEN
SYSGEN>  SHOW GBLPAGES
SYSGEN>  SHOW GBLSECTIONS
```

You can then check the number of global pages and global sections in use by entering the following commands:

```
$  INSTALL
INSTALL>  LIST/GLOBAL
```

By subtracting the second set of values from the first, you can determine if there are enough global pages and global sections available for your use. If you need to modify these values, you must edit the SYS$SYSTEM:MODPARAMS.DAT file and include the following lines:

```
ADD_GBLPAGES=257
ADD_GBLSECTIONS=5
```

After modifying these values, you must run AUTOGEN by using the following commands:

```
$  @SYS$UPDATE:AUTOGEN SAVPARAMS GENPARAMS
$  @SYS$UPDATE:AUTOGEN SETPARAMS REBOOT
```

These commands will recompute your system parameters. AUTOGEN will also perform an automatic shutdown and reboot when it is finished.

1.3 VAXcluster Considerations

This layered product is fully supported when installed on any valid and licensed VAXcluster configuration, with the following restrictions:

- The API must be installed and run on each node in the VAXcluster containing a synchronous communications interface connected to an IBM system.
- When you run the API in interactive mode, you must run it from a node with a synchronous device interface and API locally installed.

1.4 VAX Optional Products

For general background information on installing optional products on a VMS system, refer to the *Guide to VAX/VMS Software Installation* for Version 5.0 systems. This manual has an appendix dealing with optional product installation.

1.5 VMSINSTAL Requirements

Installing the Application Programming Interface on a VMS system involves running the VMSINSTAL procedure. The dialogue is self-explanatory. The system tells you to answer questions and waits for you to tell it to continue. Most questions require a simple YES (Y) or no (N) answer. The questions display default answers (where available) in the following way:

```
[YES]:
```

To answer a question with the default YES, press [RET].

When you invoke VMSINSTAL, it checks that:

- You are logged in to a privileged account.
- You have adequate quotas for installation.
- All users are logged off.
- DECnet is shut down.

Note that the following explanation of VMSINSTAL deals with the simplest case; in actual practice, the procedure may ask other questions, depending on your configuration and the products already installed. Refer to the *Guide to VAX/VMS Software Installation* for a full description of how VMSINSTAL works.

To install the distribution kit on your VMS host:

- Log in to the system manager's account.
- Make sure you have backed up the system disk.
- Make sure that you have at least 4700 free blocks on the system disk.
- Make sure that you have 257 global pages free. (If there are not enough global pages, the API cannot be installed as a shareable image.)
- Make sure you have five global sections free.

- Make sure that all users are logged out and all batch jobs are complete.
- Disable logins and DECnet.

1.5.1 Using VMSINSTAL

VMSINSTAL is a command procedure that installs VMS layered software products. The VMSINSTAL command line has the following format:

```
$ @SYS$UPDATE:VMSINSTAL SNALU0nnn ddcu: [OPTIONS N]
```

where:

nnn represents the major version number and the current maintenance update in that version.

The first and second digits represent the major version number, and the third digit represents the current maintenance update version number. For the version number of your kit, refer to the label on the distribution kit or the BOM. If you do not supply the product name and version number, VMSINSTAL prompts you for them.

ddcu represents a device name for the API installation media, where *dd* is the device code, *c* is the controller id, and *u* is the unit number.

It is not necessary to use the console drive. If you do not supply the device name, VMSINSTAL prompts you for it. MTA0: is the device name used in examples in this document.

OPTIONS N is an optional parameter you should provide if you want to be prompted to display or print the release notes.

If you do not include the OPTIONS N parameter, VMSINSTAL does not prompt you to display or print the release notes.

When you install a product using VMSINSTAL, you have two installation options. Either you can enter the VMSINSTAL command line specifying the product name, version number, device name, and release notes option, or you can enter the following command:

```
$ @SYS$UPDATE:VMSINSTAL
```

If you enter the preceding command, VMSINSTAL prompts you for the product name, version number, and device name during the installation. If you use this command, you do not have the option of displaying or printing the release notes.

1.6 Accessing the On-line Release Notes

This product provides on-line release notes. You should review the release notes before installing the product. They contain the latest enhancements to the product, which may include changes to the installation procedure. If you specify the OPTIONS N parameter on the VMSINSTAL command line, the system prompts you regarding how you would like to see the release notes. After installing the product, you can read the release notes in the file SYS$HELP:SNALU0*vvu*.RELEASE_NOTES, where *vv* is the major version number and *u* is the update number (1 digit).

2
Installing the API

This chapter describes how to install the DECnet/SNA VMS Application Programming Interface, which this chapter refers to as the API. It contains a step-by-step description of the installation considerations. The final section includes actual system installation logs using PAK information and VMSINSTAL.

2.1 The Installation Procedure

The API installation consists of a series of questions and informational messages. The process takes 5 to 15 minutes to complete.

2.1.1 Running VMSINSTAL

Digital recommends that you use a hard-copy terminal for installing the API if you would like a copy of the installation process. If you have a hard-copy terminal, you can produce a copy of the installation procedure in a file by typing:

```
$ SET HOST 0/LOG=filename
```

where:

filename is the name of the file in which you want the log file stored.

Step 1: Log in to system manager's account.

To start the installation, invoke the VMSINSTAL command procedure from a privileged account, such as the SYSTEM account.

```
Username: SYSTEM [RET]
Password:        [RET]
```

Step 2: Invoke VMSINSTAL.

Use the following syntax to invoke VMSINSTAL:

```
$ @SYS$UPDATE:VMSINSTAL SNALU0nnn ddcn: OPTIONS N
```

Replace *nnn* in the product name with the version number of the software, for example, SNALU0023.

Replace *ddcn* with the name of the device on which you plan to mount the media, where *dd* is the device name, *c* is the controller ID, and *n* is the unit number.

OPTIONS N is an optional parameter that indicates you want to be prompted to display or print the release notes, or copy them to SYS$HELP. If you do not include the OPTIONS N parameter, VMSINSTAL does not prompt you to display, print, or copy the release notes. Please read the release notes before proceeding with this installation.

```
           VAX/VMS Software Product Installation Procedure V5.0

It is dd-mmm-yyyy at hh::mm.
Enter a question mark (?) at any time for help.
```

Step 3: Product Installation Begins.

VMSINSTAL displays a message that the media containing the API has been mounted on the specified device and that the installation has begun.

```
Please mount the first volume of the set on ddcn:
* Are you ready? YES
%MOUNT-I-MOUNTED, SNALU0 mounted on _ddcn:

The following products will be processed:

SNALU0 Vn.n

    Beginning installation of SNALU0 Vn.n at hh::mm

%VMSINSTAL-I-RESTORE, Restoring product saveset A...
```

Where *n.n* is automatically replaced with the version number of the API, for example, V2.3.

Step 4: Select a release notes option.

If you specified OPTIONS N when you invoked VMSINSTAL, the installation procedure prompts you for a release notes option.

```
Release Notes Options:

    1.  Display release notes
    2.  Print release notes
    3.  Both 1 and 2
    4.  Copy release notes to SYS$HELP
    5.  Do not display, print or copy release notes.

Select option [2]:
```

If you select option 1, VMSINSTAL displays the release notes immediately on your terminal. You can terminate the display at any time by pressing CTRL/C.

If you select option 2 or 3, VMSINSTAL prompts you for a print queue name:

```
Queue name [SYS$PRINT]:
```

Enter a queue name or press RETURN to send the file to the default output print device, SYS$PRINT.

No matter which option you select, VMSINSTAL then asks you if you want to continue the installation. Answer YES to continue or NO to exit VMSINSTAL.

```
* Do you want to continue the installation? YES
%VMSINSTAL-I-RELMOVED, The products release notes have been successfully
moved to SYS$HELP.
```

Step 5: Register the product with the License Management Facility.

The installation procedure prints out information specific to the particular license and asks if you have registered and loaded your PAK for the API.

```
Product:              SNA-API
Producer:             DEC
Version:              n.n
Release Date:         dd-mmm-yyyy

* Does this product have an authorization key registered and loaded?
```

If you have not registered and loaded your PAK, answer NO to this question. The installation reminds you to register the PAK before you run the product. The installation continues.

Step 6: Select installation options.

You have the option to purge files from previous versions of the API that are superseded by this installation. Purging is recommended because it will save disk space.

```
* Do you want to purge files replaced by this installation [YES]?
```

The system now asks if you want to have the IVP run automatically at the end of the installation. The IVP for the API checks to be sure that the installation is successful. You should run the IVP immediately after installation.

```
* Do you want to run the IVP after the installation [YES]?
```

Press RETURN to exit from the procedure, unless you have more products to install using VMSINSTAL. When the procedure is complete, either reboot your system or enable logins and DECnet manually.

Step 7: Select language symbols.

You have the option of installing only those symbol files necessary for the programming languages you are using. You need 4138 blocks of disk space to install all the symbol files.

If you do not want all the symbol files offered, answer NO to the following:

```
* Would you like all the symbol files installed on this system [Y]?
```

A NO answer to this question results in a list that displays the languages offered and the disk requirements for the symbol files of each of those languages.

```
 Please enter Yes (Y) or No (N) if you want the symbol files
 installed for the following languages:

*       ADA (3289 blocks) [N]?
*       BASIC (28 blocks) [N]?
*       BLISS (76 blocks) [N]?
*       CC (103 blocks) [N]?
*       FORTRAN (99 blocks) [N]?
*       LIBRARY (30 blocks) [N]?
*       MACRO (56 blocks) [N]?
*       PASCAL (310 blocks) [N]?
*       PLI (147 blocks) [N]?

        You have chosen the following languages:
            ()

* Is this OK [Y]?
```

Step 9: Read informational message.

The installation procedure now displays the following informational message:

```
%SNALU0-I-NOQUEST, No further questions will be asked

        The IVP for this product, SNALU0$IVP.COM, can be found in
        the SYS$TEST directory.

        To install the SNASHR.EXE, SNALU0SHR.EXE and SNALU0MSG.EXE
        images as shareable each time the system reboots, you must
        add the following line to your system startup procedure:

                $ @SYS$STARTUP:SNALU0$STARTUP

        On-line release notes for this product can be found in the file,
                SYS$COMMON:[SYSHLP]SNALU00nn.RELEASE_NOTES

%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories ...
```

Step 10: The IVP is run.

The installation procedure calls the IVP to verify that the API software was successfully installed. The system displays the following messages:

```
** DECnet/SNA VMS Application Programming Interface Vn.n Installation Test **
.... Testing API Vn.n file locations
.... Testing Basic API Vn.n
.... Testing Extended API Vn.n

** DECnet/SNA VMS Application Programming Interface Vn.n Test Successful **
```

Step 11: End the installation procedure.

The following messages indicate that the entire installation procedure is complete:

```
     Installation of SNALU0 Vn.n completed at hh::mm

      VMSINSTALL procedure done at hh::mm
```

2.2 Postinstallation Considerations

The installation procedure for API installs SNALU0SHR.EXE, SNASHR.EXE, SNALU0MSG.EXE, and SNAGWAMSG.EXE files as shareable images. Section 2.2.1 lists the files added to the system.

To install API on other nodes that share a common system disk in a cluster environment, run the SYS$STARTUP:SNALU0$STARTUP.COM command procedure on each node. For nodes in a cluster environment that do not share a common system disk, the API must be installed on each node. Section 2.2.2 shows the command procedure for installing API as a shareable image.

Verification of the installation can be done either during installation through the VMSINSTAL utility or at any other time by running the SNALU0$IVP.COM command procedure found in the SYS$TEST directory. This command procedure verifies that the API has been installed correctly on your system. It does not verify connection between IBM and the DECnet/SNA Gateway or VMS/SNA. Section 2.2.3 shows the command procedure for running the IVP.

The API Help file can be added to an editor's Help file. Section 2.2.4 shows the command procedure for adding API Help.

2.2.1 Files Created During Installation

During installation, the files listed below are placed on your system. Note that these files are divided into two parts: basic and extended. The basic files correspond to Version 1.1 of the DECnet/SNA VMS Application Programming Interface and have been added so existing VMS applications have backward compatibility. The extended files add new functions for later versions. To maintain backward compatibility, the modules are separated into two shareable images: SNASHR.EXE and SNALU0SHR.EXE.

NOTE

API V2.0 or later does not provide the object library, SNA.OLB. If you wish to use existing applications, you must link them with SNASHR.EXE.

Table 2–1: File Locations After Installation

File Name	Location
Basic API	
SNASHR.EXE	(SYS$SHARE)
SNAGWAMSG.EXE	(SYS$MESSAGE)
SNALIBDEF.ADA	(SYS$LIBRARY)

Table 2–1 (Cont.): File Locations After Installation

File Name	Location
SNALIBDEF.BAS	(SYS$LIBRARY)
SNALIBDEF.R32	(SYS$LIBRARY)
SNALIBDEF.PAS	(SYS$LIBRARY)
SNALIBDEF.PEN	(SYS$LIBRARY)
SNALIBDEF.LIB	(SYS$LIBRARY)
SNALIBDEF.MAR	(SYS$LIBRARY)
SNALIBDEF.PLI	(SYS$LIBRARY)
SNALIBDEF.FOR	(SYS$LIBRARY)
SNALIBDEF.H	(SYS$LIBRARY)
Extended API	
SNALU023.RELEASE_NOTES	(SYS$HELP)
SNALU0SHR.EXE	(SYS$SHARE)
SNALU0MSG.EXE	(SYS$MESSAGE)
SNALU0DEF.ADA	(SYS$LIBRARY)
SNALU0DEF.BAS	(SYS$LIBRARY)
SNALU0DEF.FOR	(SYS$LIBRARY)
SNALU0DEF.H	(SYS$LIBRARY)
SNALU0DEF.LIB	(SYS$LIBRARY)
SNALU0DEF.MAR	(SYS$LIBRARY)
SNALU0DEF.PAS	(SYS$LIBRARY)
SNALU0DEF.PEN	(SYS$LIBRARY)
SNALU0DEF.PLI	(SYS$LIBRARY)
SNALU0DEF.R32	(SYS$LIBRARY)
SNALU0$STARTUP.COM	(SYS$STARTUP)
SNALU0$IVP.COM	(SYS$TEST)

You can find HELP information for the API in the system help facility under the topic SNA_API.

2.2.2 Installing the API as a Shareable Image

The file SYS$STARTUP:SNALU0$STARTUP.COM contains the start-up command procedure for the API. To install the API as a shareable image, execute the command procedure as follows:

```
$ @SYS$STARTUP:SNALU0$STARTUP
```

Include the above command in your system start-up procedure to automatically install the API as a shareable image when you boot the system.

2.2.3 Running the Installation Verification Procedure

The Installation Verification Procedure (IVP) verifies the success of the installation. It checks that the new files were transferred to their proper locations and that files are not in the wrong location. If you encounter problems using the API, you should run the IVP as a first step in finding a solution. The IVP is designed to catch problems with missing files and old files left on your system. If a problem develops with the API, run the IVP first. To run the IVP after you install the product, invoke the command:

```
$ @SYS$TEST:SNALUO$IVP
```

If the IVP fails, correct the situation, and run the IVP again. Section 2.3.1 describes IVP failures in more detail.

2.2.4 Adding the SNA_API Help File to the Help File of an Editor

The API HELP information that is added to the HELPLIB file during installation can also be inserted into the HELP file of an editor for programmers who use editors to develop DECnet/SNA or VMS/SNA applications. The following commands perform this operation. These commands require system manager privileges.

```
$ LIBRARY/HELP/EXTRACT=SNA API/OUTPUT=SNAAPI SYS$HELP:HELPLIB
$ LIBRARY/HELP/INSERT SYS$HELP:xxxHELP SNAAPI
$ DELETE SNAAPI.HLP;*
```

where *xxx* is the name of your editor. For example, EDT or LSE.

2.2.5 License Management Facility in a VAXcluster

Refer to the *VMS License Management Utility Manual* for information on managing licenses in a VAXcluster environment.

2.3 Error Recovery

If errors occur during the installation or when the IVP is running, VMSINSTAL displays error messages.

Errors can occur during the installation if any of the following conditions exist:

1. The operating system version is incorrect.
2. A prerequisite software version is incorrect.
3. Quotas necessary for successful installation are insufficient.
4. System parameter values for successful installation are insufficient.
5. The VMS help library is currently in use.
6. The product is not properly licensed.
7. Your system has insufficient disk space.

For descriptions of the error messages generated by these conditions, see the VMS documentation on system messages, recovery procedures, and VMS software installation. If any of these conditions exist, you should take the appropriate action as described in the message. (You might need to change a system parameter or increase an authorized quota value.) These requirements are part of the installation requirements in Chapter 1 of this manual.

2.3.1 Installation Verification Procedure Messages

This section shows the different messages that the SNALU0$IVP command procedure displays:

Beginning IVP Installation

```
** DECnet/SNA VMS Application Programming Interface Vn.n Installation Test **
```

Error Messages

```
%SNALU0$IVP-E-FILNOTFOU, the following files were not found:
```

This message displays a list of files not found. The list will include one, some, or all of the following files:

```
SYS$SHARE:SNASHR.EXE
SYS$SHARE:SNALU0SHR.EXE
SYS$MESSAGE:SNALU0MSG.EXE
SYS$MESSAGE:SNAWAMSG.EXE
```

```
%SNALU0$IVP-F-ASSEMFAI, failed to assemble Basic API Vn.n test program
```

```
%SNALU0$IVP-E-LINKFAI, failed to link Basic API Vn.n test program with
SNASHR.EXE
```

```
%SNALU0$IVP-E-RUNFAI, failed to run Basic API Vn.n test program
```

```
$SNALU0$IVP-F-ASSEMFAI, failed to assemble Extended API Vn.n test program
```

```
$SNALU0$IVP-E-LINKFAI, failed to link Extended API Vn.n test program with
SNALU0SHR.EXE
```

```
$SNALU0$IVP-E-RUNFAI, failed to run Extended API Vn.n test program
```

Completing IVP Installation

```
** DECnet/SNA VMS Application Programming Interface Vn.n Test Successful **
```

```
** DECnet/SNA VMS Application Programming Interface Vn.n Test FAILED **
```

2.4 Sample Installation on a VAX System with OPTIONS N

A sample of the entire installation procedure follows:

```
$ @SYS$UPDATE:VMSINSTAL SNALU0023 MUA0

         VAX/VMS Software Product Installation Procedure V5.0

It is 01-MAY-1989 at 20:45
Enter a question mark (?) at any time for help.

* Are you satisfied with the backup of your system disk [YES]?

Please mount the first volume of the set on MUA0:

The following products will be processed:

  SNALU0 V2.3

    Beginning installation of SNALU0 V2.3 at 20:45

%VMSINSTAL-I-RESTORE, Restoring product saveset A...

    Release Notes Options:

1. Display release notes
2. Print release notes
3. Both 1 and 2
4. Copy release notes to SYS$HELP
5. Do not display, print or copy release notes

* Select option [2]: 4
* Do you want to continue the installation? YES
%VMSINSTAL-I-RELMOVED, The products release notes have been successfully
moved to SYS$HELP.

     Product:           SNA-API
     Producer:          DEC
     Version:           2.3
     Release Date:      28-APR-1989

* Does this product have an authorization key registered and loaded? YES
* Do you want to purge files replaced by this installation [YES]?
* Do you want to run the IVP after the installation [YES]?

        Installing all the symbol files for the supported languages
        requires 4138 blocks of permanent storage.

* Would you like all the symbol files installed on this system [Y]? NO

        Please enter Yes (Y) or No (N) if you want the symbol files
        installed for the following languages:
```

```
*       ADA (3289 blocks) [N]? Y
*       BASIC (28 blocks) [N]? Y
*       BLISS (76 blocks) [N]? Y
*       CC (103 blocks) [N]? Y
*       FORTRAN (99 blocks) [N]? Y
*       LIBRARY (30 blocks) [N]? Y
*       MACRO (56 blocks) [N]? Y
*       PASCAL (310 blocks) [N]? Y
*       PLI (147 blocks) [N]? Y

        You have chosen the following languages:
            (ADA,BASIC,BLISS,CC,FORTRAN,LIBRARY,MACRO,PASCAL,PLI)

* Is this OK [Y]?
%SNALU0-I-NOQUEST, No further questions will be asked

        The IVP for this product, SNALU0$IVP.COM, can be found in
        the SYS$TEST directory.

        To install the SNASHR.EXE, SNALU0SHR.EXE and SNALU0MSG.EXE
        images as shareable each time the system reboots, you must
        add the following line to your system startup procedure:

                $ @SYS$STARTUP:SNALU0$STARTUP


        On line release notes for this product can be found in the file,
                SYS$COMMON:[SYSHLP]SNALU0023.RELEASE_NOTES

%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...

** DECnet/SNA VMS Application Programming Interface V2.3 Installation Test **

.... Testing API V2.3 file locations
.... Testing Basic API V2.3
.... Testing Extended API V2.3

** DECnet/SNA VMS Application Programming Interface V2.3 Test Successful **

         Installation of SNALU0 V2.3 completed at 20:50


         VMSINSTAL procedure done at 20:50


$
```

2.5 Sample Installation on a VAX System without OPTIONS N

A sample of the entire installation procedure (without OPTIONS N) follows:

```
$ @SYS$UPDATE:VMSINSTAL SNALU0023 MUA0

         VAX/VMS Software Product Installation Procedure V5.0


It is 01-MAY-1989 at 18:08
Enter a question mark (?) at any time for help.

* Are you satisfied with the backup of your system disk [YES]?

Please mount the first volume of the set on MUA0:

* Are you ready? Yes
%MOUNT-I-MOUNTED, SNALU0 mounted on _MUA0:

The following products will be processed:

  SNALU0 V2.3

    Beginning installation of SNALU0 V2.3 at 18:08

%VMSINSTAL-I-RESTORE, Restoring product saveset A...
%VMSINSTAL-I-RELMOVED, The products release notes have been successfully
moved to SYS$HELP.

     Product:           SNA-API
     Producer:          DEC
     Version:           2.3
     Release Date:     28-APR-1989

* Does this product have an authorization key registered and loaded?
* Do you want to purge files replaced by this installation [YES]?
* Do you want to run the IVP after the installation [YES]?

        Installing all the symbol files for the supported languages
        requires 4138 blocks of permanent storage.

* Would you like all the symbol files installed on this system [Y]:
%SNALU0-I-NOQUEST, No further questions will be asked

        The IVP for this product, SNALU0$IVP.COM, can be found in
        the SYS$TEST directory.

        To install the SNASHR.EXE, SNALU0SHR.EXE and SNALU0MSG.EXE images
        as shareable each time the system reboots, you must add the
        following line to your system startup procedure

                $ @SYS$STARTUP:SNALU0$STARTUP

        On-line release notes for this product can be found in the file,
                SYS$COMMON:[SYSHLP]SNALU0023.RELEASE_NOTES

%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...

** DECnet/SNA VMS Application Programming Interface V2.3 Installation Test **
```

```
.... Testing API V2.3 file locations
.... Testing Basic API V2.3
.... Testing Extended API V2.3

** DECnet/SNA VMS Application Programming Interface V2.2 Test Successful **

         Installation of SNALU0 V2.3 completed at 18:19


         VMSINSTAL procedure done at 18:19


$
```